

**Virginia City Hybrid Energy Center**  
**Response to Data Request**  
**Vivian Thomson, Vice Chair, Virginia Air Pollution Control Board**

**Question (Page No. 5):**

The Hensley report (Hensley Energy Consulting 2008) observes that the Virginia City facility will generate 2,600,000 tons of ash per year (data obtained from the PSD permit application), ten times the amount produced by a “typical” IGCC facility.

**Response:**

Dominion estimates that the Virginia City Hybrid Energy Center (VCHEC) will generate approximately 2.4 million tons of fossil fuel combustion byproducts (FFB) which includes ash, limestone and flue gas desulfurization (FGD) byproduct. Since an Integrated Gasification Combined Cycle (IGCC) facility requires a high BTU, low ash fuel, an IGCC would generate about ten percent of the ash that would be generated by the VCHEC. However, the ash numbers are misleading.

Because an IGCC requires a high Btu, low ash fuel, an IGCC is ideally suited to use a washed coal. The coal that comes out of a mine is comprised of a 50/50 split of coal and rock. When 200 tons of material comes out of a typical deep mine, 100 tons is coal and 100 tons is coal waste. So, when a 585 MW IGCC facility requires 1.8 million tons of high quality coal, 1.8 million tons of coal waste is generated at a coal preparation plant. The 585 MW IGCC facility itself will generate about 180,000 tons of ash. The 1.8 million tons of waste coal plus 180,000 tons of ash is nearly 2 million tons of waste which is comparable to the waste expected to be generated by VCHEC.

It is very misleading to state that IGCCs generate far less waste than the proposed VCHEC. Waste is either generated prior to combustion and placed in waste coal impoundments or generated in the boiler as a by-product of combustion and placed in the on-site ash disposal area. It can be argued that the CFB is more efficient at extracting energy because all of the carbon from the mine is sent to the boilers rather than losing some of the carbon containing rock (10-15% loss of carbon) during the washing process. In addition, the properties of the FFB at the VCHEC will cause the FFB to harden to a concrete-like substance encapsulating the impurities and reducing the leaching potential. The waste coal materials are not impervious and as such are exposed to precipitation.